

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
2 June 2005 (02.06.2005)

PCT

(10) International Publication Number
WO 2005/049094 A1

(51) International Patent Classification⁷: **A61K 48/00**,
C12N 15/861

(21) International Application Number:
PCT/US2004/038179

(22) International Filing Date:
15 November 2004 (15.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/519,493 13 November 2003 (13.11.2003) US

(71) Applicant (for all designated States except US): **ADVANTAGENE, INC.** [US/US]; 160 Paulson Road, Newton, MA 02168 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **AGUILAR-CORDOVA, Carlos, Estuardo** [GT/US]; 160 Paulson Road, Newton, MA 02168 (US).

(74) Agents: **GAUDET, Stephen, J.** et al.; Perkins Smith & Cohen LLP, One Beacon Street, Boston, MA 02108 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A MIXED COMPLEMENTARY VIRAL VECTOR FOR GENE THERAPY

(57) Abstract: Replication able viral vector sequences mixed with replication deficient viral vector(s) delivered *in vivo* to vector producing cells is disclosed herein. The replication able viral vector has a target cell-activated regulatory sequence or a functional mutation that controls its propagation in the target cells. Alternatively, the vectors can be mutually dependent for replication and physiological effect. The replication deficient vector(s) contains a gene encoding a protein that is expressed in the transduced cells and can induce anticancer responses. The target cells can be carcinomas, sarcomas or other solid tumors, for example. The vectors of this invention can also be utilized to treat other diseases such as restenosis, in which case the target cell can be a vascular smooth muscle cell.

WO 2005/049094 A1